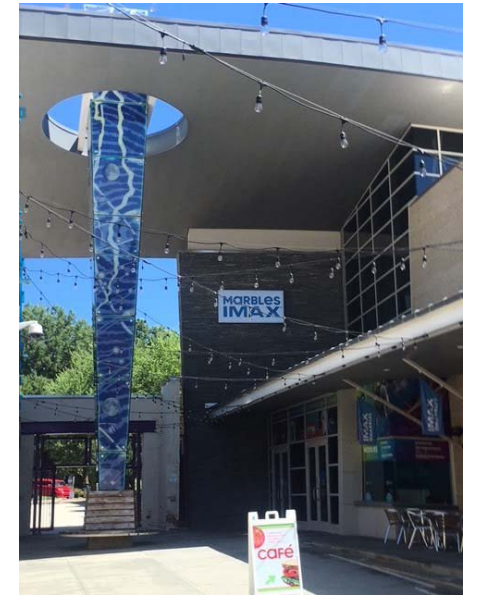


Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

March 18, 2019



Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Introduction & Project Overview

Marbles Kids Museum was established in 2007 as a merger between Playspace and the former Explor^{is} Museum. Wake County owns the Museum and the IMAX Theater facilities whereas Marbles, a private 501(C)(3) nonprofit operates the complex located at 201 East Hargett Street across from Moore Square in downtown Raleigh, under a long term lease. The main museum facility was constructed in 1999 and the IMAX Theater was completed in 2001.

As Wake County continues to experience significant population growth, Marbles also faces capacity challenges in accommodating general admissions and program services. In response, a Master Plan Study of the Marbles complex was initiated in 2016. This study identified strategic growth priorities and the full development potential of the entire site. Building on the successful master planning effort a Strategic Implementation Plan process begin in the spring of 2017 to determine the greatest needs for the next 10 years and a plan for implementation. The process centered on identifying facility goals and program needs to be accomplished in the next decade.

In 2017, the County and Marbles completed this Strategic Implementation Plan process. Following presentation of this plan to the Board of Commissioners at a Work Session on October 9, 2017, the Board agreed to initiate conceptual and schematic design of an Expansion in order to identify scope and cost. Staff recommends that the Board approve the use of the Construction Manager at Risk (CMAR) delivery method in order to provide initial constructability guidance and establish cost assumptions as part of this early design effort. The following report provides a description of the CMAR delivery method and compares and contrasts it with traditional competitive bidding methods.

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Summary of Delivery Methods

Traditional Competitive Bid Methods

- Bids are publicly advertised and prices submitted on required date.
- Contract is awarded to lowest responsible, responsive bidder
- No involvement by contractors in design phase of project
- Owner has no information about price or bid cost drivers until project is bid
 - Single Prime Construction – all work performed as single package – one GC to Owner
 - Multi-Prime Construction – 4-6 separate trade packages are bid to Owner
 - Dual Prime – Options A & B bid concurrently

Alternative Methods

- Construction Manager at Risk
 - Responsible for coordination and complete construction
 - Involvement begins in design phase
 - Prequalifies & publicly bids all subcontracts with enhanced MBE outreach
 - Quality based selection – similar to that of designers
- Design - Build
 - Similar to CMAR except design/construction by single entity

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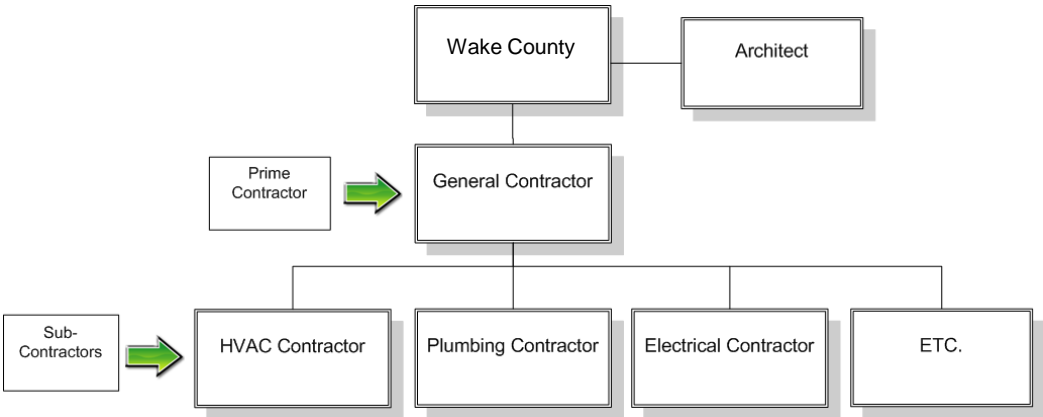
June 2014 - NC Legislature -- HB 1043:

- Advance justification by public bodies now required for alternative project delivery approaches, such as CMAR or Design-Build (other than Multi-Prime, Single Prime, or Dual Bidding)
- Public Entity must determine advantages/disadvantages of these other delivery approaches in lieu of traditional delivery approaches
- This report will summarize the CMAR Delivery Method and how it compares to traditional competitive bid methods.

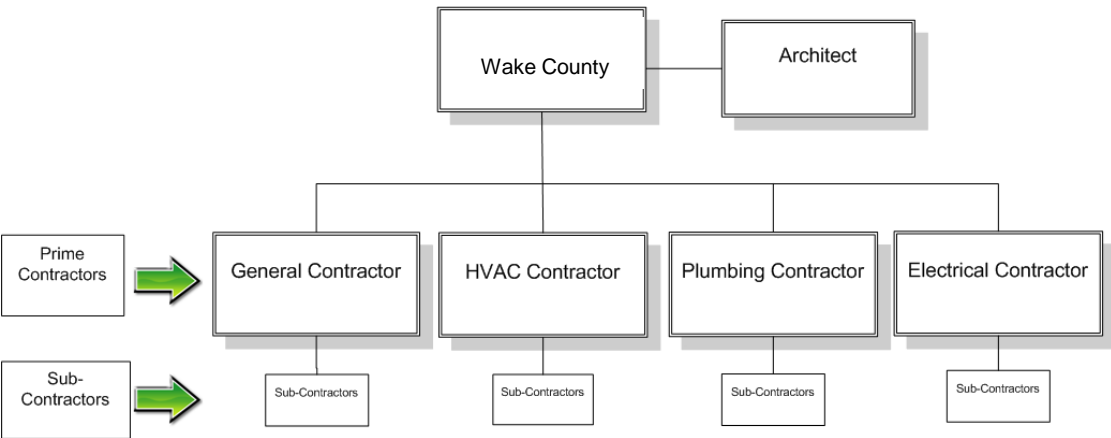
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Traditional Bid Method Contract Structures

Single Prime

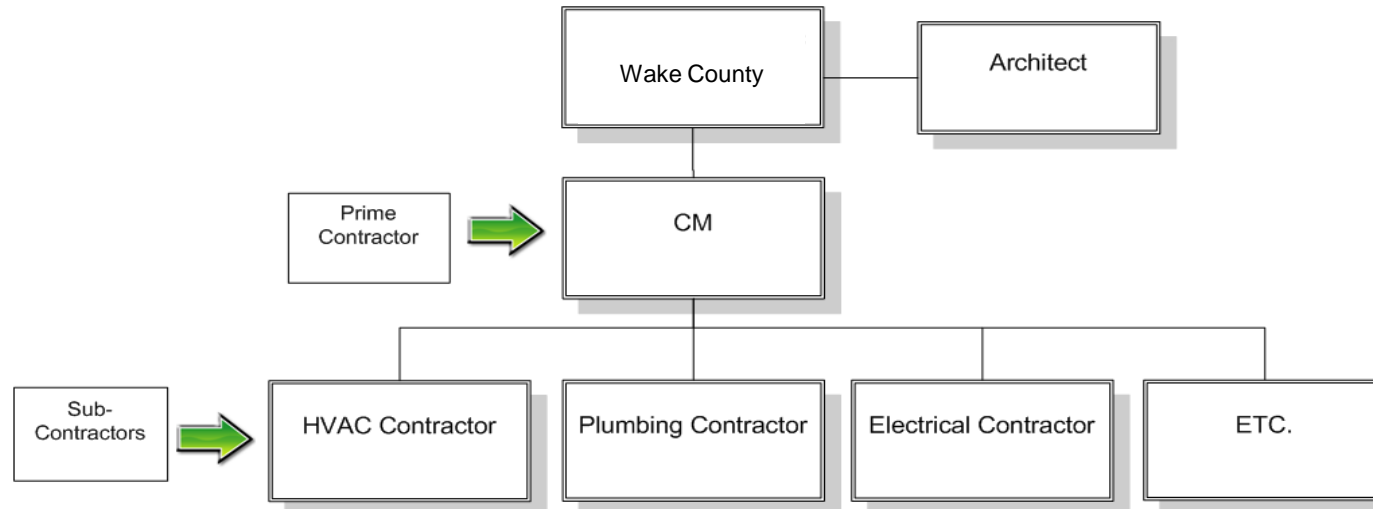


Multi-Prime



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CMAR Delivery Method Contract Structure



- Selection based on qualifications
- Fixed Fee established for design phase services & mgmt. of construction
- “Preconstruction Services” – design phase involvement
- CMAR Bids Subcontracts on behalf of the Owner
- Manages construction process

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Features of the CMAR Delivery Method

The following are important features of the CMAR Delivery Method that will be summarized on the following pages:

- Involvement Throughout Project – Design Thru Construction
- Level of Transparency of Cost Information
- Subcontractor Prequalification
- Minority Business Enterprise Utilization
- Schedule Control & Efficiency
- Overall Quality Control

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Summary of CMAR Services

Preconstruction Phase

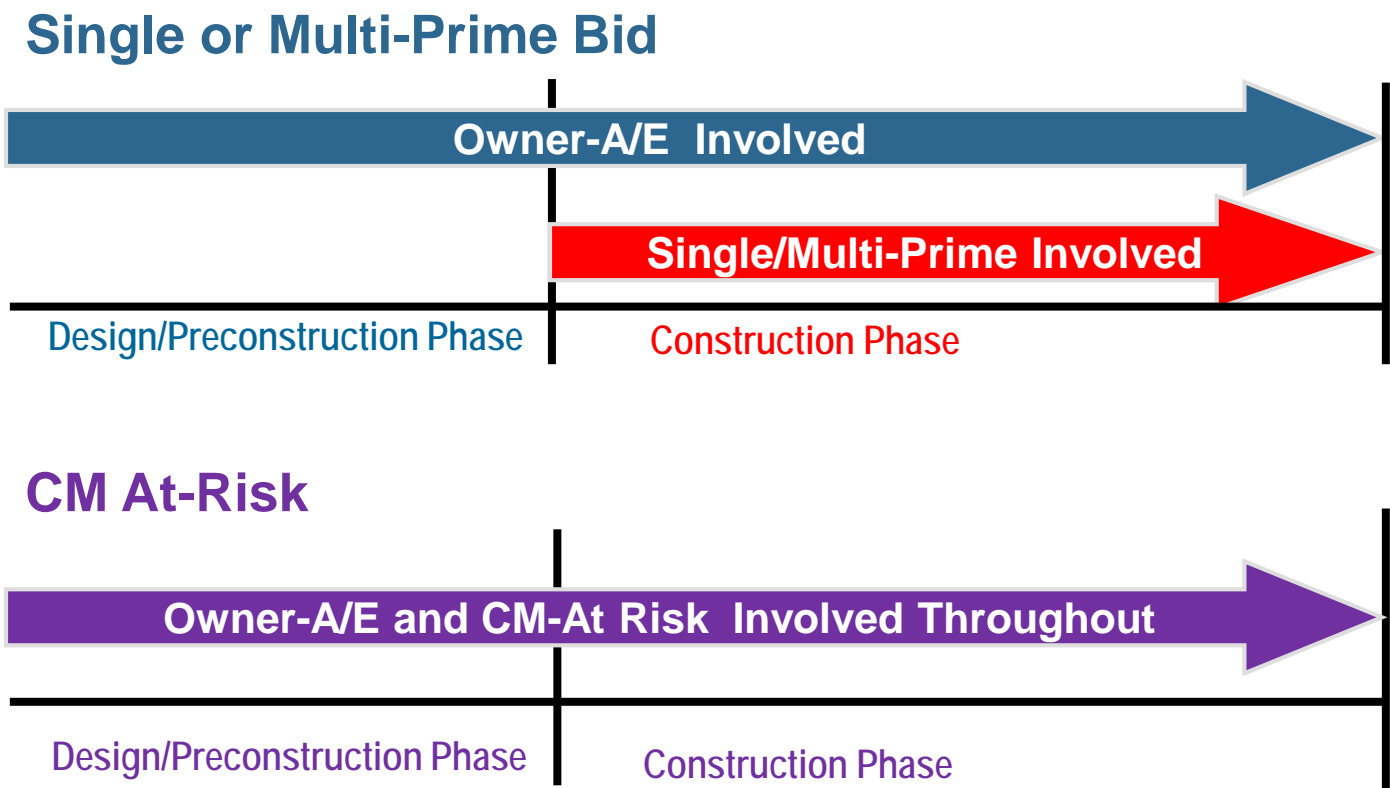
- Detailed Cost Estimates
- Constructability Reviews (recommending most efficient methods)
- Value Engineering Analysis
- Schedule Development & Coordination
- Site Utilization & Phasing Plans
- Competitive Public Bid of Subcontracts

Construction Phase

- Guaranteed Maximum Price – (“GMP”) – for defined scope
- Prequalified/Bonded Subcontractors
- Overall Management of Construction
- Constant Management of Schedule and Cost
- Assists Owner with Occupancy Transition and Move Management

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Involvement Throughout Project



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Level of Transparency

CMAR – Transparency in the overall process

- Contract is Open Book; easily checked
- Subcontractors prequalified
- Sub bids publicly opened and lowest responsive selected

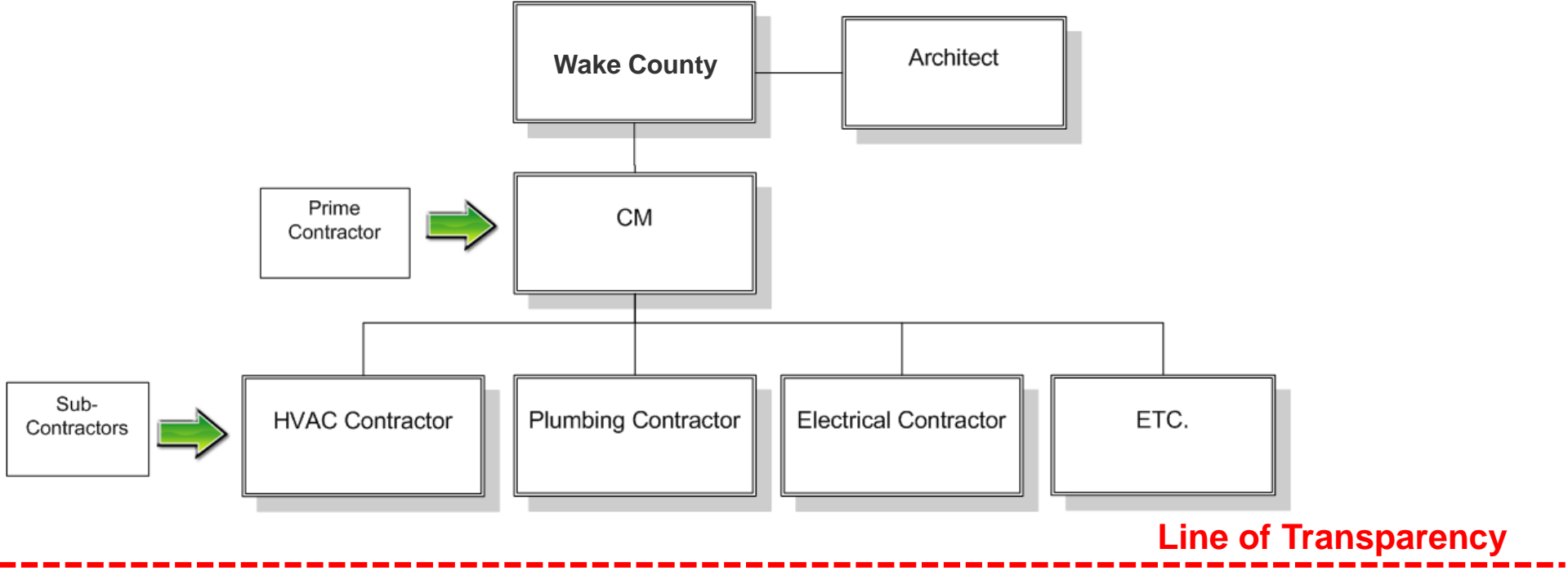
Single Prime – Very limited transparency

- Only the total project bid amount is provided
- Method of subcontractor selection is not disclosed
- Cost assumptions are not disclosed
- Unqualified subcontractors may be used

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Line of Transparency - point beyond which contractor's cost drivers & impacts are shared w/ Owner

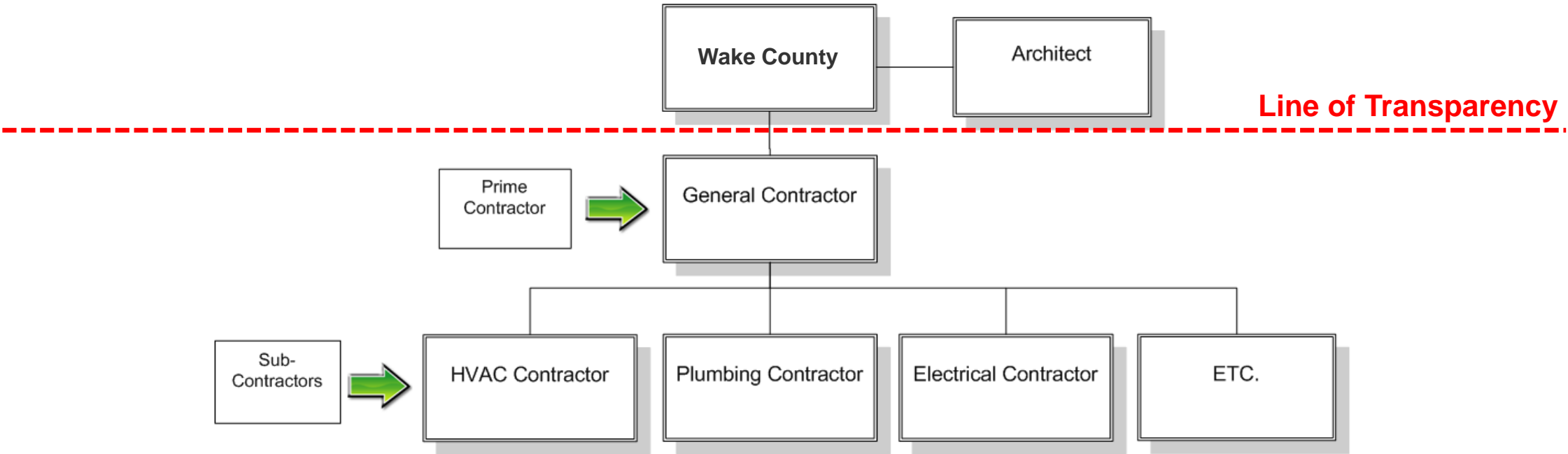
CMAR Method - all information made available during design and above the Line of Transparency ("Open Book")



Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Level of Transparency - point beyond which contractor's cost drivers & impacts are shared w/ Owner.

Single Prime Method – no information available before bid; after bid – only limited information provided (“Closed Book”)



Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Subcontractor Prequalification

- Subs are identified and evaluated - approved as capable and qualified
- On average – majority of subs are same as Single Prime
- Typically CMAR's have well developed sub relationships
- 97 – 100% of subcontracting dollars go to NC subs
- 90% of CM cost goes to the subcontractors

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Minority Business Enterprise Utilization

CMAR method provides:

- extensive MBE recruitment plans
- effort made to create small work packages that MBEs can bid
- more work contracted out since they cannot self-perform
- mentoring of MBE occurs

Under Single Prime Contracting - minimal MBE outreach effort

- Avg. MBE Utilization for Wake County – compare FY 2017 vs. 2018:
 - FY 2017 - Single Prime contracts only – 12.91%
 - FY 2018 – Single Prime + CMAR contracts – 23.49%

*County MBE Participation Goal is 10%

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Schedule Control

- Schedules are initially developed during the design phase
 - assists design team and Owner w/design deadlines
 - includes tracking regulatory and permit approvals
- Develops schedule strategies for bid packages
- Develops phasing schedules for complex projects
- Better staffing in construction to monitor schedule closely
- Overall schedule efficiency better on CM projects
 - historically proven on County & WCPSS projects

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Cost Control Measures

- Construction Budgets Developed During Design Phase
- Value Engineering/Constructability Analysis During Design
- Bid Packages for Lowest Cost and Best Value
- Guaranteed Maximum Price Contract (GMP)
 - Form of Construction Contract Awarded by BOC
 - Cost for Defined Scope – based on bid results
 - Reduces additional cost claims during construction
 - Limits GMP Adjustments to Conditions defined in contract

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Relative Cost of Delivery Methods

CM At Risk - Fee is negotiated and set in the contract

- On bid Day, CM does have the possibility to have higher cost due to:
 - More onsite personnel than Single Prime
 - More subs bonded with CM
 - MBE outreach effort
 - Effort required to pre-qualify subs
 - Preconstruction services

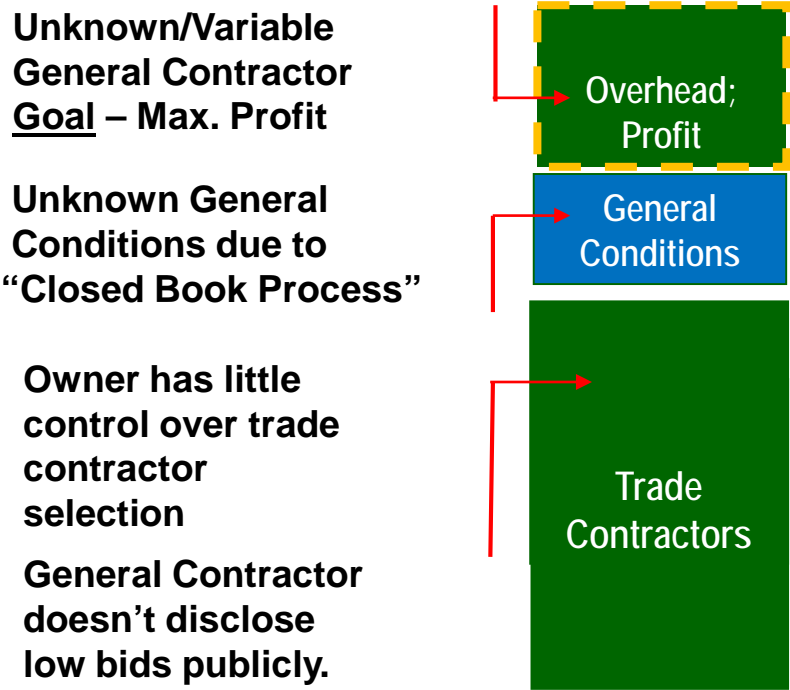
Single Prime Contracting

- Amount of profit included in bid determined by current market conditions
- Potential for Fee/ Profit Increase during project
- Lowest Bid may include unqualified subcontractors

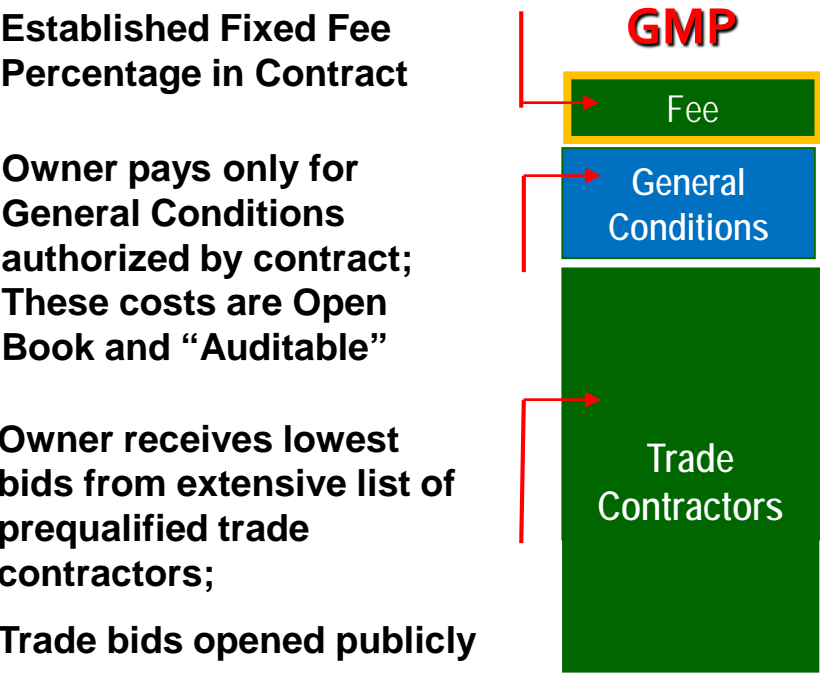
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Relative Cost of Delivery Methods

Traditional Single Prime



CM At Risk



***Conclusion** – Owner knows what cost impacts are beginning in design and has opportunity to adjust design/scope to reduce cost before bid.

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

CMAR Selection Criteria

Selection Process – Similar to Designer Selection per NCGS

“Quality Based Selection” - based on Criteria:

- Experience on similar projects
- Capabilities for Preconstruction services
- Local knowledge and proximity to project
- Project staff (experience & availability)
- References - proven results
- Financial resources, bonding capability, insurance limits
- Relationship with local trade contractors
- Historical fixed fees on other projects
- Litigation history

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Summary & Conclusions

Comparative Factors	Single Prime	CMAR
Basic, Traditional Process Requires Less Planning	Advantage	
Advance Public Justification of Use not Required (HB 1043)	Advantage	
Ability to Select Prime Contractor		Advantage
Integrated Team Involvement in Design Process		Advantage
Prequalified Subcontractors		Advantage
History of MBE Participation		Advantage
Best Schedule Control – Faster Overall Delivery		Advantage
Control of Fee/Profit Increases – Change Flexibility		Advantage
Transparency of Overall Process		Advantage
Owner Advocate vs. Adversary		Advantage

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Other Governmental Organizations Using This Delivery Method

Wake County Government

- Justice Center
- Detention Center Expansion
- Davie Street Parking Deck
- Public Safety Center Renovations
- WakeBrook Mental Health Campus
- Vernon Malone Academy
- Cary Regional Library
- Oak City Center

Wake County Public School System

- Majority of New School Construction
- Large Renovations

City of Raleigh

- Convention Center
- Critical Public Safety Facility
- Union Station

Wake Technical Community College

- Majority of Major Projects supporting South, North and RTP Campuses

NC State and UNC University Projects

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Importance for This Project

- Cost Control During Design Phase
- Best Ability to Plan Ahead for Complex Project
- Prequalification of Subcontractors – Quality of Work
- MBE Participation
- Adherence to Schedule – Timeliness of Delivery
- Transparency of Overall Process
- CM as Advocate vs. Adversary; Collaborative Approach
- Better overall quality and value vs. only cheaper first cost

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Conclusion

As described throughout this report, the Construction Management at Risk delivery method brings owner, design team and construction professional together during the design phase of the project, in a collaborative effort that carries the project forward through the construction process in an open, and transparent manner. The CMAR is selected by the Owner through a qualification based process, and is therefore committed to the Owner as an advocate by being vested in the project during its design, rather than only being introduced to the project in a low bid competition, with no prior knowledge of the project goals, objectives, constraints and challenges.

The particular project will involve a complex renovation on a congested urban site in a rapidly escalating construction market, and the constructability expertise and subcontractor relationships that most CMAR companies have are invaluable and crucial in order to best control cost on this project. The CMAR approach provides numerous advantages. This includes the flexibility to bid components of the project at different times, such as an early bid package for demolition, which may enable fast tracking of the schedule. While there is some additional cost for preconstruction phase services during design, the cost and schedule planning expertise these services provide, brings value to the project which will ultimately yield a higher quality product and enhanced timeliness in project delivery as well as predictable cost control. This is especially important for a complicated renovation where pricing can be more volatile than with a straight forward new build.

Staff therefore recommends that the Board of Commissioners approve utilization of the CMAR approach for the Marbles Kids Museum Expansion project, as this method is in the best interest of the County.

Evaluation of Construction Manager at Risk Delivery Method for Marbles Kids Museum Expansion Project

Milestones & Next Steps

CMAR RFQ/Selection Submittals Due	– March 21, 2019
CMAR Selection Complete (Following Interviews)	– April 12, 2019
CMAR Selection Approval by Board	– May 6, 2019
Board Work Session Preview of Schematic Design	– June 2019
Marbles Expansion Proposal Complete for Hospitality Tax Major Projects Review	– July 2019